

CLAIMS

1. An ammunition loading assembly for loading a projectile into a barrel
of a gun, comprising an urging member for urging the projectile into
5 the said barrel; and drive means for driving the urging member
between a projectile receiving position outside the barrel and a
projectile delivery position inside the chamber of the gun, towards the
proximate end of the barrel, the drive means including a drive chain
assembly, connected to the urging member for driving the urging
10 member between the said projectile receiving and delivery positions.
2. An ammunition loading assembly according to claim 1 which further
includes a magazine for storing the drive chain assembly when the
urging member is in the projectile receiving position.
- 15 3. An ammunition loading assembly according to claim 2 wherein the
drive chain assembly is rigid in all directions but one, the
arrangement being such that the drive chain assembly pushes the
urging member from the projectile receiving position to the projectile
20 delivery position and pulls the urging member from the projectile
delivery position to the projectile receiving position.

4. An ammunition loading assembly according to claim 2 or 3 wherein the magazine defines a curvilinear track along which the drive chain assembly moves when moving the urging member between the projectile delivery position and the projectile receiving position.
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5. An ammunition loading assembly according to claim 4 wherein the magazine includes a polymeric body defining the track and which is covered by metal cover plates defining an outlet for the chain assembly.
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6. An ammunition loading assembly according to claim 5 wherein the polymeric body is of polypropylene.
7. An ammunition loading assembly according to claim 5 or claim 6 wherein the polymeric body is provided with metal reinforcing members having curved chain guiding faces located at corners of the track, for guiding the inner end of the drive chain assembly around such corners.
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8. An ammunition loading assembly according to any one of claims 2 to 7 wherein the drive chain assembly is constituted of a plurality of chain links pivotally connected to each other; and wherein each chain link is provided with a retaining block for abutting the retaining
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block of a consecutive chain link for rigidising the drive chain assembly in all directions but one, the arrangement being such that when the drive chain assembly is bent in the said one direction, the retaining blocks are displaced from each other, and when the drive chain assembly is in a linear configuration, adjacent retaining blocks abut each other to limit bending of the drive chain assembly in all but said one direction.

9. An ammunition loading assembly according to claim 8 wherein the configuration of the retaining blocks is such that, when the blocks abut each other, the drive chain assembly extends in a loose curve, the arrangement being further such that the drive chain assembly is stressed by straightening the curve.

10. An ammunition loading assembly according to claim 8 or claim 9 wherein the retaining blocks each comprises a base for connecting to a chain link and two abutment faces extending upwardly from the base, the configuration being such that the angle between the base and each abutment face is marginally greater than 90 degrees.

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11. An ammunition loading assembly according to any one of claims 8 to 10 wherein the drive means includes a drive motor for driving the drive chain assembly.

12. An ammunition loading assembly according to claim 11 wherein the drive motor includes a drive sprocket wheel for engaging the links of the drive chain assembly.
- 5 13. An ammunition loading assembly according to any one of claims 2 to 12 which includes a first chain-retaining device for limiting curving of the chain assembly out of its linear orientation, when moving the urging member towards the projectile delivery position, the first chain-retaining device being movable with the urging member from
10 the projectile receiving position towards a position intermediate the projectile receiving and delivery positions, where it is retained from further movement by a retaining means.
14. An ammunition loading assembly according to claim 13 which further
15 includes a second chain-retaining device, for guiding the chain when moving out of the magazine.
15. An ammunition loading assembly according to claim 14 insofar as it is dependant on claim 8 wherein the first and second chain-retaining
20 devices are each be provided with at least one sliding member for engaging an upper surface of the retaining blocks of the chain assembly.

16. An ammunition loading assembly according to claim 15 wherein the sliding members each comprises one or more polypropylene bodies.
17. An ammunition loading assembly according to any one of claims 14
5 to 16 wherein the second chain-retaining device is movable with the urging member in a direction towards the projectile delivery position, from a position proximate the outlet of the magazine to a position offset from the said outlet.
- 10 18. A gun including an ammunition loading assembly according to any one of claims 1 to 17.
19. A drive chain assembly for an ammunition loading assembly for loading a projectile into a barrel of a gun, the chain assembly
15 comprising a plurality of chain links pivotally connected to each other; each chain link being provided with a retaining block for abutting the retaining block of a consecutive chain link for rigidising the drive chain assembly in all directions but one.
- 20 20. A drive chain assembly according to claim 19 wherein the arrangement is such that when the drive chain assembly is bent in the said one direction, the retaining blocks are displaced from each other, and when the drive chain assembly is in a linear configuration,

adjacent retaining blocks abut each other to limit bending of the drive chain assembly in all but said one direction.

21. A drive chain assembly according to claim 20 wherein the
5 configuration of the retaining blocks is such that, when the blocks
abut each other, the drive chain assembly extends in a loose curve,
the arrangement being further such that the drive chain assembly is
stressed by straightening the curve.
- 10 22. A drive chain assembly according to claim 21 wherein the retaining
blocks each comprises a base for connecting to a chain link and two
abutment faces extending upwardly from the base, the configuration
being such that the angle between the base and each abutment face
is marginally greater than 90 degrees.
- 15 23. An ammunition loading assembly substantially as herein described
and as illustrated in the accompanying drawings.